

AND.

SHORT NOTES ON VACCINATION

IN

BIHAR AND ORISSA

FOR THE YEAR

1921-22

BY

LT.-Col. W. C. ROSS, M.B., Ch.B., D.P.H., I.M.S.,

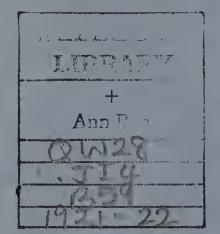
Director of Public Health, Bihar and Orissa.



PATNA:

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, BIHAR AND ORISSA, 1922.

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ANNUAL STATISTICAL RETURNS

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ANNUAL

VACCINATION REPORT

BIHAR AND ORISSA

FOR THE YEAR

1921-1922.

1. Staff.—Lt.-Col. W. C. Ross, I.M.S., held charge of the Department throughout the year and submits this report.

The three Assistant Directors of Public Health remained in charge of their respective circles during the year except for short absences on privilege leave, viz., Dr. S. N. Tiwari in the South Bihar Circle, Dr. B. P. Mazumdar in the North Bihar Circle and Dr. T. Sebastian in the Chota Nagpur and Orissa Circle.

The Inspecting Staff consisted of 20 District Inspectors of Vaccination and 69 Sub-Inspectors of Vaccination (including three deputed for duty at the Vaccine Depôt), in addition to the one Sub-Assistant Surgeon combining vaccination inspection with other duties in Angul. The total number of vaccinators employed in the Province during the year was 1,073 licensed and 233 paid, against 1,088 licensed and 227 paid in the previous year.

In municipalities and in the district of Puri vaccination was done by paid vaccinators; but otherwise the work throughout the Province was carried out under the licensing system, except for the employment of paid vaccinators by District Boards, and employed temporarily by Civil Surgeons for short periods to deal with outbreaks of small-pox.

2. Operations performed.—The total number of operations performed during the year amounted to 939,851, as compared with 1,060,485 last year. The decrease was 120,634 and was due to political unrest and active interference with the work of the staff. Many reports were received both in writing and verbally of the increasing difficulty in carrying on the work in face of opposition stirred up by agitators and of the unwillingness of the people either to permit the operation on their children or to pay for it. These difficulties are likely to cause a further falling off next year as the vaccinators are now unwilling to work in many places and their numbers are likely to decrease as they cannot realise their fees fully. Of the total number of operations in the Province 925,134 were performed by the staff of the Vaccination Department as compared with 1,041,451 last year. Nine lakhs two thousand two hundred and eighty-six operations were primary and 22,848 were re-vaccinations as against 965,334 primary and 75,147 re-vaccinations last year.

There was a decrease of 64,048 in the primary operations and 52,299 in re-vaccinations during the year. Of the total operations performed (925,134), 909,007 equal to 98:26 per cent. were successful, as compared with 1,002,985 equal to 96:29 last year. The number of operations performed in municipalities fell by 10,000 as compared with last year's returns. The total number of operations performed was 33,903 and the number of successful operations was 31,036 of which 30,040 were primary and 996 were re-vaccinations as compared with 31,541 and 5,329 respectively last year. The ratios of success in municipalities were 96:47 per cent. for primary operations and 36:00 per cent. for re-vaccinations as compared with 95:09 per cent. and 48:98 per cent. respectively last year. The number of operations performed in rural areas was 891,231 as compared with 997,578 last year and the ratios of successes were 99:33 per cent. for primary operations and 61:93 for re-vaccinations.

3. Vaccination in Districts.—Of the three districts of the Patna Division,

Shahabad reported an increase in the number of operations performed (6,899) whilst Patna and Gaya reported a decrease of over 8,000.

There was a general decrease in the number of operations reported from all the districts of the Tirhut Division.

The districts of the Bhagalpur Division recorded small increases except Purnea and Monghyr in both of which large decreases were reported.

With the exception of Angul and Sambalpur all the districts of Orissa recorded decreases in the number of operations, the greatest decrease being in Puri (7,305).

With the exception of Ranchi there was a general fall in the number of operations returned from the districts of Chota Nagpur, the greatest decrease being in Palamau (4,177).

4. Vaccination in Towns and Compulsory Areas.—Statement VII shows that during the year 15,645 children under one year of age out of an available number of 26,347 or 59:38 per cent. were successfully vaccinated.

The towns of Monghyr, Bhagalpur and Darbhanga again show the smallest proportion of work done, and the towns of Chapra, and Cuttack have also given unsatisfactory returzs.

5. Work done in the Native States under the Supervision of the Political Agent and Commissioner.—Vaccination work in the Orissa Feudatory States has steadily developed during recent years under the direction and encouragement of the Political Agent and Commissioner.

Both vaccination and to a large extent re-vaccination are practically compulsory in the majority of these States.

During the year under report 191,822 primary operations and 389,925 re-vaccinations were performed as compared with 201,433 and 348,149 respectively in the previous year. As the total population of the Feudatory States is under four millions, these figures are rather extraordinary when compared with the provincial figures, which show a total of roughly nine lakhs operations performed amongst the population of 34,002,189.

The ratio of primary vaccinations reported by the Orissa States is 48·42 per thousand against 26·57 in the Province and of re-vaccinations 98·43 per thousand against a provincial ratio of 1·06. The number of children born each year in the Feudatory States may be estimated roughly at two lakhs, and of these a considerable number, certainly over 60,000, die in infancy.

6. Protection of infants.—During the year under report the number of children under one year available for vaccination was 934,229 and the number of successful operations was 370,510 equal to 396 per thousand against 377,981 or 386 per thousand successful operations out of 978,806 children available during the previous year. The protection of infants in municipalities is separately shown in statement VII. It gives a ratio of 593 per thousand of the surviving infant population as compared with 594 in the previous year.

These figures are unsatisfactory inasmuch as they show that for more than half of the total number operations are performed on children over one year of age. Civil Surgeons and Assistant Directors of Public Health are unanimous in attributing the opposition to vaccination to be concerned more with the age of the child than with the operation itself, and, in view of the strong popular prejudice which exists against the vaccination of infants

at an early age. I consider that it is desirable that the Vaccination Act should be amended so as to raise the age for compulsory vaccination to one year instead of six months.

7. Incidence and Mortality of Small-pox.— During the last ten years the total number of deaths from small-pox in the district of this Province has been 96,128.

During the first quinquennium the number of deaths were 40,437 and during the second 55,691. In each of the last five years the mortality was as follows:— 6,687, 6,205, 18,514, 19,374, and 4,911.

The provincial ratios of the mortality from small-pox per thousand of population during the last five years have been 19, 17, 53, 56 and 14.

8. Prevention of small-pox.— The constant and considerable mortality noted in the preceding paragraph is, in my opinion, a complete demonstration both of the insufficiency and of the inefficiency of the existing arrangements for vaccination.

It is well known—in fact it is an admitted axiom—that thorough vaccination can and does stamp out small-pox altogether, and in the light of that knowledge, and in face of the above facts, there is great necessity for a more definite vaccination policy.

I do not consider that small-pox can be effectively dealt with and stamped out unless vaccination is made compulsory throughout the Province, and I would recommend that the Vaccination Act should be modified so as to extend the age within which vaccination is required, to one year, and should be generally enforced; that vaccination should be free; and that the supervision and control of vaccination should be delegated to District Boards and Municipalities and their Health Officers.

9. Inspection of Work.—During the year under report the Assistant Directors of Public Health inspected 61,401 primary vaccination as against 145,627 in the previous year. The decrease is due to the inspections being made in greater detail in the villages and to the inclusion of the spleen census amongst village children in the cold weather vaccination inspection tours.

The inspecting work done by the Assistant Directors of Public Health has been comprehensive and they have submitted valuable reports on the efficiency of the staff and work in 17 out of the 21 districts in the Province.

The Civil Surgeons of the Province inspected 31,207 primary and 8,600 re-vaccination operations against 53,177 primary and 9,047 re-vaccination last year. It should be noted that the methods of inspection of Civil Surgeons and Assistant Directors of Public Health are different. Civil Surgeons inspect the new work which has just been done and the numbers returned by them are therefore smaller, whereas Assistant Directors of Public Health inspect all the children under ten years of age, and look at old work as well as new work and also look for unvaccinated children and children who are marked with small-pox, and they also examine vaccinators' registers and other records in the villages where they can be verified and checked.

10. Supply of Vaccine.—The Vaccine Depôt at Namkum supplied the province with vaccine throughout the year. A large supply of vaccine is held in reserve and the necessary stores and supplies for manufacture are in ample stock. Fifty-five lakhs eighty-nine thousand nine hundred and thirty doses of vaccine were manufactured during the year as compared with 1,869,908 doses last year. The number of doses issued was 2,679,298 against 2,628,545 in 1920-21. The number of doses in stock at the end of the year was 4,100, 366. The number of calves used during the year was 957 as compared with 362 in the previous year, and the average yield of crude vaccine was over 58 grammes per calf as compared with 55 grammes in the previous year. The working cost of the Depôt for the year amounted to Rs. 28,879 as compared with Rs. 24,923 in the previous year. The average cost of the vaccine per dose works out at '99 pies on the gross expenditure and to '29 pies on the net expenditure when the receipts are taken into account.

11. Vaccine Depôt and Cold Storage.—The Vaccine Depôt was again closed for manufacture twice during the working season on account of outbreaks of foot-and-mouth disease but in spite of these interruptions a record quantity of vaccine was produced and a large reserve stock was again accumulated. As these epidemics amongst the calves occur every year the Director, Civil Veterinary Department, was again consulted and advised fencing the premises, the erection of isolation sheds and comprehensive disinfection of the operating room, calf sheds, and environment. Plans are being prepared accordingly for administrative approval.

The cold storage, which is essential for the preservation and ripening of the large stocks of vaccine, had been working badly for some time and was accordingly closed for repairs in April. The vaccine was taken to Calcutta in ice and kept in cold storage there until the entire cold storage plant had been taken down, and re-erected after necessary repairs to the machinery and renewal of the insulation in the cold chamber. It is now working satisfactorily once more.

Throughout the year, cholera vaccine and influenza vaccine were stocked in the Depôt and issued throughout the Province as required.

12. Experimental Work—Further experimental work was carried out at the Depôt during the year with some interesting results. It was established that the more viscid and aseptic vaccine manufactured with the addition of 5 per cent, starch and 2 per cent, boric acid in 93 per cent, water (after boiling to form a jelly) was potent for a shorter time and did not store so well as plain glycerine vaccine. No change can therefore be made in the product issued for use until a better mixture can be made.

It was also found that crude pulp when stored as such in the cold storage did not preserve its potency as well as pulp mixed with glycerine.

Variations in the technique of operation were carried out with a view to increasing the output per calf and the production of crude pulp per calf has now been raised from 12.38 grammes in 1914 to 58.36 grammes. This is probably as near the maximum as we can go with advantage and may be taken as an approximately final figure on which to base our estimates of manufacture.

Further work was also done to improve the seed vaccine and a better quality of seed was produced by vaccinating a calf direct from the vesicles of a calf vaccinated from a child. The quantity was less but the quality was better.

13. Cost of the Department.—The total cost of the Vaccine Department (excluding the Vaccine Depôt) during the year, as detailed in Statement II, was Rs. 1,56,873 or Rs. 39 less than the previous year.

The cost per successful operation was 2 annas 8 pies against 2 annas 5 pies in the previous year.

14. General.—As I have already indicated in paragraph 2 above, the work of vaccination was considerably interfered with during the year—in some districts more especially—by political agitation and the passive and in soms cases active hostility of the people, and by discontent amongst the vaccinators caused by the difficulty in realising their fees.

The result of the year's working is not therefore very satisfactory and the state of vaccination especially in the rural areas is likely to go from bad to worse. It has become a matter for serious consideration as to how long the present arrangements can continue to work at all. The vaccinators are underpaid and discontented and find great difficulty in realising their fees in many cases. Some have left their work and many more are likely to do so and a good many of them are adversely influenced by political propaganda to the detriment and neglect of their proper work. It is therefore no matter for wonder that the amount of vaccination work done has decreased considerably in the year under report.

In my opinion a change in system is now called for to meet the changed conditions and I very strongly recommend a change of policy from the licensing system to a system of free and compulsory vaccination and a change of control with decentralisation from the Vaccination Department to the District Boards.

I have for many years advised the introduction of free and compulsory vaccination and I am convinced that it is more necessary now than ever before if the Province is to be saved from lapsing into a partially unvaccinated condition which will surely end in a great epidemic of small-pox.

In conclusion I desire to bring to the notice of Government the work of the three Assistant Directors of Public Health and especially of Dr. T. Sebastian whose work has been characterised by reliability and sound judgment. Dr. C. N. Banerji has carried out his duties as Superintendent of the Vaccine Depôt with efficiency and in a very satisfactory manner.

W. C. ROSS,

LT.-Col. I.M.S.,

Director of Public Health, Bihar and Orissa.



STATEMENT I.

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	District.	The Capper of the Specification of the contract of the capper of the cap	Population of district according to the consus 1821,	Average population per square mile.		Total numl	ber of persons v	accinated,	r of persons vaccinated by	
Number.			Population of d 1921,	Average populat	Average number of vaccinators out the season.	Male,	Female.	Total.	Average number of vaccinator.	Total.
1	2		3	4	5		6		7	8
	Patna Division.						T-Depth de			
1	Patna By paid Vaccinators By licensed Vaccinators		1,574,287	761	{ 18 60	6,089 26,712	5,416 25,556	11,535 52,2 68	641 871	11,227 52,230
3	Gaya By paid Vaccinators		2,152,930	457	£ 20	3,497	3,323	6,810	340	6,714
	(By licensed Vaccinators	•••	,		73	18,331	17,149	85,480	467	35,464
3	Shahabad By paid Vaccinators By paid Vaccinators By licensed Vaccinators		1,816,821	415	{ 24 109	4,224 33,697	9,391 28,378	7,615 61,475	317 564	7,510 61,475
	Total of Patna Division By licensed Vaccinators	. 200	5,544,038	497	62 245	13,800	12,160	25,960	.417	25,451
	Chy neensed vaccusation	-				78,140	71,083	149,223	. 609	149,169
	Tirhut Division-	1							•	
4	Saran By paid Vaccinators	•••	2,3^9,953	872	8	1,334	1,122	2,456	307	2,311
	(By paid Vaccinators	1			(4	18,756	16,733 1,047	35,489	479	35,484
Б	Champaran By licensed Vaccinators		1,940,841	519	{ 64	1,477	16,628	2,521	631	1,522
	(By paid Vaccinators) ·		6 13	1,771	1,550	34,166 3,321	534 277	34,089
6	Muzaffarpur By licensed Vaccinators		2,754,945	997	75	40,266	39,041	79,307	1,058	3,081 79,275
	(By paid Vaccinators	})		6 8	1,341	1,242	2,583	324	2,583
\$	Darbhanga By licensed Vaccinators		2,913,529	870	88	41,024	42,032	56,056	97.7	86,056
	Cotal of Tithat Division	•••	9,949,268	789	32	5,923	4,961	10,884	340	- 9,797
	(By licensed Vascinators	•••	<i>y</i>		301	120,584	114,434	235,018	* 781	234,904
	Bhagalpus Division.	3.	•		4					
3	Monghyr By paid Vaccinators By licensed Vaccinators	•••	2,029,065	518	{ - 7 30	1,032 26,973	80 7 25, 591	1,539 52,564	263 1,752	1,656 52,550
	(By paid Vaccinators		0.000 570	407	(1E	2,092	1,635	3,727	339	2,924
9	Bhagalpur By licensed Vaccioators		2,033,770	481	63	29,813	28,903	67,619	914	57,588
3.0	Purnea By poid Vaccinators		2,024,608	405	5 9	2,210	1,952	4,162	462	1,140
30	Purnea By licensed Vaccinators	-	5 2,027,000	300	₹8	17,822	16,580	34,402	712	33,694
11	Santal Parganas Sy paid Vaccinators By licensed Vaccinators		1,708,639	329	{ 8 57	3,391 22,529	2,730 21,990	6,121 44,519	7.62 7.82	4,820 44,167
	Total of Ehagalpur Division. By paid Vaccinators By paid Vaccinators By licensed Vaccinators	•••	7,-86,982	423	{ 35 198	8.725 96,137	7,124 92,957	15,949	452 955	10,540 187,999
	Crissa Division.					·		` `		
•	(By paid Vaccinators		}	FOR	5 10	2,529	1,878	4,407	411	3,405
12	Cuttack By licensed Vaccinators		2,034,678	5 65	2 70		2 .845	57,713	824	57,455
13	Balasore By paid Vaccinators		980,504	470	{ 3		507	983	327	266
	(By licensed Vaccinators)		82		12,333	25,895	, 80 9	25,350
14	Angul By liconsed Vaccinators Puri By paid Vaccinators	•••	122,574 951,651	112 380	14		2,079 16,183	5,239 35,884	436 1,227	5,203 , 35,419
10	(By paid Vaccinators)		6		124	256	42	230
16	Samba!pur By Reensed Vaccinators		769,466	206	34		9,958	20,311	597	20,087
	· (By paid Vaccinators)		50	23,038	18,492	41,530	865	39,320
	Total of Orissa Division Ey licensed Vaccinators		4,968,873	\$61	148	1	51,815	109,158	787	108,095

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	Vaccinat	ion.		Re-va	ecination.		Percentage of ful cases the resultance	of success- in which lts were	ndod jo 000	Percentage o	f nnknown	Average ann ber of person fully vace during pr five year	s success- inated evious	Average a number deaths fi small-p luring pre	of rom oox viou s
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Under one year,	One year and under six years.	Total of all ages,	Unknown.	Total.	Successful,	Unknown.	Primary.	Re-vaccination,	Persons successfully raccinated per 1,000 of population.	Primary,	Ro-vaccination.	Number.	Ratio per 1,000 of population,	Number,	Ratio per 1,000 of population.
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11,264 1,558	21,879 1,419	34,00? 2,994,	25	. 240	51 133	17	99:84	70·83 59·64	} 28*80 {	•07 •03	7.08	87,535	31.77	319	*11 {
18,008 3688	60,583	78,906 ₃ 2,539 ₅	19,	32	8 ; ⁷ !	•••	99:56	25 *00	30.34	·02	•••	§} >91,604	31.44	421	*1#
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2,387 27,399	2,358 16,427	4,783 41,993	15	1,301 352	723 1 9 9	201 107	99°54 99°82	65 72 81 22	27.90	·31 ·22	15·45 30 39	} 48,154	26.77	504	*28
	4,775	10,369	73	5,309	2,527	691	99.06	54:72	}	.69	13.01	} 223,193	28.29	2,674	'33
88,802	98,400	187,609	123	1,105	606	231	99-85	69.57	25.49	*66	21.17) 230,100			
1,250	1,602	3,237	129	1,002	465	178	98.80	56*43	> 297	3.78	17·78 7·75	60,614	29 37	1,433	•69
27,186		57,135 263	167	258 717	302	107	99*73	60°50 49°50		2·90 	14.92	23,731	24.20	378	*38
6,390		25,2 6	74	545	230	254	99.72	79:00	,	20	46*60	,	35.82	54	*29.
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		District.		district according	r square m	ccinators				persons	
•				distric	lation per	ber of va	-			of	
Naulber.				Population of 1921.	Average population per square mile.	Average number of vaccinators employed through-	Male.	Female.	Total.	Average number vaccinator.	Total,
]	-	2		3	4	5		6		7	8
						1					
	Chota	Nagpur Division.		,							
17	Hazaribagh	{By paid Vaccinators		1,276,946	181	{ 44	433 14,570	4 4	857	214	81:
		By licensed Vaccinators (By paid Vaccinators				3	1,073	13,368	27,938 1,762	634 582	26,89 : 1,28 :
18	Ranchi	By licensed Vaccinators		1,334,473	187	47	19,773	18,736	38,509	819	33,89
N . *		(By paid Vaccinators				6	1,962	1,225	3,187	398	971
19	Palamau	" By licensed Vaccinators		733,394	149	25	7,605	6,519	14,124	565	13,696
20	Mankham	By paid Vaccinators		} 1,548,777	373	5 30	7,498	6,698	14,196	473	12,862
20	Manbhum	" By licensed Vaccinators		1,040,777	0,0	42		14,840	31,161	741	30,571
21	Singhbhum	By paid Vaccinators	4**	759,438	195	5 - 4	519	383	902	225	820
	**************************************	By licensed Vaccinators	4	,		23	8,337	7,435	15,772	685	15,198
1			1.								
	Total of Chate New	By paid Vaccinators		5,653,028	208	§ 49	11,475	9,429	20,904	426	18,754
. *	Total of Chota Nag Division.	By licensed Vaccinators	4	5 0,000,028		181	66,606	60,898	127,504	704	120, 25
10	(1)	(By paid Vaccinators)		228	62,961	52,166	115,127	504	101,861
	Total of Vaccine	De. By licensed Vaccinators		34,002,189	409	1,073		391,197	810,007	754	800,42
	partment.	Total	•••			1,301	481,771	443,363	925,134	711	902,286
	ئ دە	tal Dispensary Department		***			•••				
		Total Railways		***		1	1,087	315	1,402	1,402	34
		Total Cooly Department				2	1,114	548	1,662	631	72
		i .		•••							
		Fotal Jails and Cantonments	•••	***	•••	2	11,099	554	11,653	(a) 251	89
		Grand Total		•		1,306	495,071	444,780	939,851	, 719	903,590
			-			,,,,,					000,000

(a) Cantonments only.

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istricts of Bihar and Orissa during the year 1921-22—concld.

													4		
accination	Success	sful.		Re-v	accination.		Percentage ful cases the resu kno	in which lts were	er 1,000 of popu-	Percentage of cases to to	of unknown tal cases.	ber of perso " fully va during	nnual num- ons success- ccinated previous years.	numb deaths small-	from
Under one year.	One year and under six years.	Total of all ages.	Unknown.	Total.:	Successful.	Unknown.	Primary.	T:Re-vaccination.	Persons successfully vaccinated per 1,000 of lation.	Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number,	Ratio per 1,000 of population,
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
416 14,353 1,045 26,433 318 10,114 33,681 16,225 508 10,337 5,655 77,462 39,487 331,023 370,510	393 12,245 235 7,387 439 3,208 7,933 14,131 270 4,811 9,270 41,782 53,237 451,900 505,137	811 26,863 1,283 33,887 932 13,579 11,475 30,578 785 15,177 15,286 120,084 98,217 797,357 805,574	 8 20 101 525 18 7 563 116 1,718 963 2,681	46 1,046 479 4,614 2,209 428 1,334 582 82 577 4,150 7,247 12,265 9,583 22,848	13 898 267 3,113 1,830 249 679 414 12 421 2,831 5,005 7,019 6,414 13,433	15 57 38 3:2 163 156 183 88 1 34 400 647 1,662 1,162 2,824	99°89 100 100° 97°28 99°82 93°02 99°99 97°88 90°92 94°41 99°95	* 41.93 90.79 60.54 72.36 89.44 91.54 58.99 83.80 14.81 77.53 74.69 77.19 €0.49 76.17 67.08	23·12 {		32·60 5·44 7·93 6·76 7·37 36·44 13·71 15·12 1·21 5·69	} 36,338 } 40,928 } 22,696 } 48,115 } 17,692 } 165,769	28°45 30°66 30°94 31°06 23°29 29°32	174 675 454 267 294	·14 ·50 ·61 ·10 ·38
::															
330	13	344		1,056	500	14	99.42	47.98			1.32				
1	1	. 2	53	1,590	305	1,285	10.2	100 •		78.71	80.91				
. 284	151	825	25	10,762	6,205	1,024	95.26	63.24		2:79	9:57				
371,125	505,302	896,745	2,759	36,256	20,443	5,147	99.54	65.71		.30	14.19		•••	•••	

Summary.

	Total nu persons v	mber of accinated.	Total nu operati perfora	ons	Percent successfu in which the were ku	he results	Average nu persons vac by each v	ccinated	children	nber of n success-ceinated.		3	
-	Primary.	Re-vaccination,	Primary.	Re-vaccination,	Primary.	Re-vaceination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One and under 6 years.	Ratio of success- ful vaccina- tions per 1,000 of popula- tion,	Total cost of Department.	Average cost of each successful case.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			,			,						Rs. a. p.	Rs. a. p
BY SPECIAL STAFF. Statement (I)	902,286	.22,848	902,286		99.55	67.08	1,301	711.	370,510	505 ,137	13	3	.25
BY DISPENSARY STAFF. Statement III				-	47-100s			•••	•••	- •••	26.73	1,56,873 1 11	0 2 8
BY OTHER AGENCIES. Railways, Cooly Depôt, Jails and Cantonments.	1,309	13,408	 1,309	13,408	95•12	63.23	5(a)	51 0	615	165	:	,	
Total	903,595	36,256	903,595	36,256	99.54	65.71	1,306	719	371,125	505,302	26.73	1,56,873 1-11-	0 2 6

(a) Cooly Department, Rail and Cantonments only.

Not and the second of the seco 1 1 :: : _ 5 1.7 . 7 7 / -1 1 1 11 1 71 3 100 1 4 4 5 1 1 . . . STATEMENT-II. ----1 . (*

			1										7
		fficer.		(j		,	,		0				Exper
No.	Circle and district.	European supervising officer.	Pay.	Native supervising officer,	Pay.	Paid vaccinators.	Pay.	Licensed vaccinators.	Pay.	Cerks.	Pay.	Peons, etc	Pay.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	PATNA DIVISION.				Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
1	Patna			5	2,344 7 5	19	1,764 0 0	60	336 0 0		•••		
2	Gaya			5	3,705 4 6	20	1,716 13 7	76			•••	2	192 0 0
3	Shahabad	•••		5	2,567 10 8	24	2,324 0 0	109	2,006 5 0		•••		
	Total of Patna Division			16	8,617 6 7	63	5,804 13 7	245	2,342 5 0			2	192 0 0
	TIRHUT DIVISION.								,	-			
Δ	Saran		***	4	2,821 9 9	8	915 13 4	74	•••				
5	Champaran			3	1,502 8 0	4	532 0 0	64	15 0 0		114		•••
B	Muzaffarpur		***	4	2,763 14 4	12	734 3 0	75	507 0 0	•••			
7	Darbhanga i.t		111	4	2,160 0 0	8	792 0 0	88	54 0 0	1	60 0 0	1	48 0 0
	Total of Tirhut Division			15	9,248 0 1	32	2,974 0 4	301	576 0 0	1	60 0 0	1	48 0 0
4	BHAGALPUR DIVISION,												
8	Phanalan		•••	4	2,145 0 0	7	844 7 6	30	***		•••	2	120 0 0
.9 10	Bhagalpur			5	3,403 15 11	11	1,160 12 9	63	•••		•••		•••
10	Purnea		"	4	1,953 13 11	9	1,304 6 10		•••	•••	•••	•••	
	Santal Parganas		•••	7	3,587 0 0	8	1,246 8 9	57	.,`			•••	***
	Total of Bhagalpur Division		•••	20	11,089 18 10	35	4,556 3 10	198	***		•••	2	120 0 0
	ORISSA DIVISION.												
12	Cuttack		•••	4	2,044 10 8	10	1,481 0 5	70	•••		***		•••
13	Balasore			-3	2,039 14 1	4	4730 5.	-32	345 0 0				
1,4 15	Angul			3	2,630 0 6	2	45 9 7	12	165 0 0		•••	500	
16	Sambalaus			3	1,751 2 0	29	3,787 14 1		•••		•••	2	48 14 9
	Sampaipur				1,595 0 0		609 3 1	34			•••		48 14 8
	Total of Orissa Division			16	10,069 11 3	51	6,396 11 7	148	510 0 0			2	48 14 8
	CHOTA NAGPUR DIVISION.			-						-			
17	Hazaribagh			4	1,888 5 11	5	1,103 8 9	44	•••		•••	•••	
18	Ranchi			5	3,301 8 0	4	750 0 0	47.		•••	•••	•••	•••
19 20	Palamau			3	1,699 12 2	9	1,209 10 7	25	450 0 0		•••		•••
21	Manbhum Singhbhum	•••		19	2,702 5 4 1,410 12 0	30	2,942 15 6 395 14 6	42 23	450 0 0				•••
	Total of Chota Nagpur Division			34	11,002 11 5		6,402 1 4	181	450 0 0				
	Total of Vaccine Circle	-		101	50,027 11 2	233	•	1,073	3,678 5 0	1	60 0 0	7	408 14 8
	ESTABLISHMENT OF THE ASSISTANT DIRECTOR OF PUBLIC HEALTH, NORTH BIHAR CIRCLE.			1	11,936 11 0				•••	2	1,219 0 0	2	274 0 0
	DITTO SOUTH BIHAR CIRCLE			1	10,675 2 9					2	1,338 11 2	2	202 5 9
	DITTO CHOTA NAGPUR AND ORISSA CIROLE,			1	10,075 0 0				•••	2	1,181 4 0	2	235 4 6
	Total			3	32,716 13 9					6	3,738 15 2	6	711 10 8
-	Total of Province	Į		1(4	82,744 8 11	3 3 € 33	26,133 14 8	1,073	3,878 5 0	7	3,798 15 2	13	1,120 8 11

rovince of Eihar and Orissa during the year 1921-22,

						, , , , , , , , , , , , , , , , , , , ,	Paid fr	om			3.	lnjs
iture.	1		(1		ul rac	n c c e s e
Total pay of establish- ment.	Travelling allowance.	Conting.	Other contingual sections of the sections of the section of the se	Total cost.	Imperial Fund.	Provincial Fund.	Local Fund.	Municipalities.	Native State".	Total	Number of all successful racci- nations and re-vaccinations.	Average cost of each successful case.
13	14	15	10	17	18	10	20	21	22	23	24	. 25
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	·	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. 2. P.		Rs. a. p.
4,444 7 5 5,614 2 1 6,897 15 8	1,520 10 1 567 3 6 2,006 3 11	,	362 10 0 386 5 6 232 14 9	6,327 11 6 6,567 11 1 9,137 2 4		3,953 7 6 4,391 10 0 6,743 1 10	840 0 0 1,376 3 4 1,540 0 0	1,534 4 0 709 18 9 854 0 6	111	6,327 11 6 6,567 11 1 9,137 2 4	63,297 42,710 69,010	0 1 7 0 2 6 0 2 1
16,956 9 2	4,094 1 6		981 14 3	22,032 8 11		15,088 3 4	3,756 3 4	3,183 2 3		22,032 8 11	175,017	0 2 0
3,737 7 1 2,049 8 0 4,005 1 4 3,114 0 0	567 5 6 1,080 5 6 548 1 0 1,376 10 1		227 14 0 97 1 0 135 0 0 206 0 0	4,532 10 7 3,226 14 6 4,688 2 4 4,696 10 1		3,488 15 3 2,694 14 6 3,446 15 4 3,620 10 1	182 6 0 180 0 0 507 0 0 54 0 0	831 5 4 352 0 0 734 3 0 1,016 0 0	\$11 \$11 \$11	4,532 10 7 3,226 14 6 4,688 2 4 4,696 10 1	37,665 36,927 82,124 88,504	0 1 11 0 1 4 0 0 10 0 0 10
12,906 0 5	3,572 6 1		665 15 0	17,144 5 6		13,257 7 2	923 6 0	2,963 8 4	•11	17,144 5 6	245,220	0 1 1
3,109 7 6 4,564 13 8 3,258 4 9 4,833 8 9	1,519 0 6 697 13 6 1,223 0 2 2,988 0 0	*** *** **.	232 5 11 283 4 0 190 1 3 114 10 3	4,861 6 11 5,545 14 2 4,680 6 2 7,936 3 6	,	3,759 0 3 4,165 9 5 3,246 14 1 6,670 0 0	410 3 9 606 1 9 533 4 10 714 0 0	685 9 11 774 3 0 897 3 3 552 3 0	111	4,881 0 11 5,545 14 9 4,680 6 9 7,936 3 0	54,215 62,115 36,428 50,187	0 1 8 0 1 5 0 2 0 0 2 6
15,768 1 8	6,428 7 2		829 5 5	23,023 14 8		17,842 0 9	2.272 10 4	2,909 3 2	191	23,023 14 3	202 945	0 1 9
3,525 11 1 2,857 14 6 2,849 10 1 5,539 0 1 2,253 1 9	1,161 5 1 1,013 4 0 625 13 11 1,556 14 5 845 9 0		114 3 8 60 0 0 40 0 0 90 0 0 69 0 6	3,515 8 7,155 14	3	3,300 15 9 3,453 2 1 3,415 8 0 8,398 0 5 2,492 8 6	956 10 2 109 0 0 3,593 2 1 353 1 9	648 9 11 974 0 5 194 13 0 317 6 0	111 000 111	4,801 8 10 8,981 2 6 - 8,515 8 0 7, 85 14 6 \$,167 11 8	61,424 26,380 4,965 34,567 20,829	0 1 3 0 8 4 0 11 8 0 3 8 0 2 5
17,025 5 6	£,202 14 5		373 4 2	22,601 8	1	16,164 13 9	5,000 14 0	1,429 13 4	111	32,601 8 1	146,498	0 9 5
2,991 14 8 4,051 8 0 2,009 6 9 6,005 4 10 1,806 10 6	1,556 15 6 427 3 0 1,238 13 8 1,354 4 2 833 14 6) 3 7	110 15 S 80 0 G 71 12 G 70 0 G	4,5 8 11 4,220 0 1 7,519 9	0 11 b	3,565 4 8 8,808 11 0 3,010 0 4 3,804 9 11 9,203 10 6	8,282 0 0	750 0 0 3.9 0 0 372 15 6	***	4,068 13 5 4,559 11 0 4,220 0 11 7,510 9 5 2,600 15 0	\$0,524 \$2,907 10,598 49,484 10,005	0 2 0 0 1 10 0 3 11 0 3 9 0 9 7
17,854 12 9	5,411 3	9	902 1	0 23,658 1	9 .,.	16,542 10 5	5,010 1 7		A ADDRESS STANDARD STRANDS	28,659 1 0	er grat a secretar storing letter	0 9 7
80,509 13 6	3,273 6		3,242 8	1 17,382 3	-	17,993 8 8		18.698 15 10	112	1,09,480 0 0	THE CONTRACTOR OF THE PERSON NAMED IN	0 1 10
12,216 3 8 11,491 8 6	2,608 4 3,635 15	6	808 4 270 4	1		15,692 13 3		\$15 \$21	111 113	15,632 19 3		110 111 myselection demonstrated
37,167 7 2	9,517 10	3	1,727 10	0 48,413 11	5	48, 412 11 8		111	411	49,413 11 1	111	111
1,17,676 4 8	34,226 10	8	4,970 3	7 1,50,873 1	11	1,27,807 14 1	0 16,939 3	13,503 15 10		1,53,873 1 1	917,198	0 2 8

B.—DISPENSARY VACCINATION.

STATEMENT NO III.—Showing Dispensary Vaccination in the Province of Bihar and Orissa during the year 1921-22.

		listrict to	attached to	ed.	vaccinated by	101 61	Primar	y vaccina	tion.		Re-	vaccinati	on.	Percent successfin white results know	ch the were	unknow	tage of vn casos l cases,
		in each d ttached.		vaccinat	persons vace		Sı	iccessful.									
Pistrict.		Number of dispensaries in each district which a vaccinator is attached.	Average number of vaccinators dispensaries during the year.	Total number of persons vaccinated	Average number of perseach vaccinator.	Total.	Under one year.	One and under six years.	Total of all ages.	Unknown.	Total.	Successful.	. Unknown.	Primary.	Re-vaceination.	Primary.	Re-vaccination.
į		2	3	4	5	6	7	8	9	10	11	12	13	14	1,5	16	17
				[,			}									
Patna	•••	•••	•••	•••	***	•••	•••		•••	•••	*:	•••		***	•••	•••	•••
Gaya Shahabad	***	•••	***		***	***	•••	•••		•••		•••		•••	•••	•••	
O	•••	•••	•••		•••	***	***				•••						***
Champaran	•••							***	•••		•••	•••		***		***	
Muzaffarpur									•••	•••		•••		•••			
Darbhanga	•••	•••		•••		•••		44.4		***		***		•••	•••		
Monghyr	***	101				•••		•••				•••			***	•••	
Bhagalpur							•••		•••								•••
Purnea	•••													•••			
Santal Parganas	•••								***	•••			•••		•••		
Cuttack	•••							***		***				***	•••		
Balasore	•••	444					•••		•••						•••	•••	
Angul	•••															•••	
Pari		•••							***								
Sambalpur					Î											•••	
Hazaribagh			•••					•••		•••		•••			٠	•••	
Ranchi							·									***	
Palamau	•••								•••	,	•••				•••	•••	
Manbhum	***	***								4	•••						***
Singhbhum	•••								•••					***		•••	***
		-															
Total	•••								•••						***		

COMPARATIVE STATEMENT No. IV.

COMPARATIVE STATEMENT No. IV .- Showing the number of persons primarily vaccinated, and the number of those per

									Persons primarily
Establishment.			1912-13	19	13-14	191	4-15	193	15-16
Estaonsament.		Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
• 1		2	3	4	5	6	7	8.	9.
Government	•••	100	•••	,.,	•••	649	515	10,277	10,046
Municipal	***	43,379	42,311	44,167	42,480	47,235	45,310	43,099	41,661
Local Fund	9.●●	86,551	85,965	82,592	81,790.	76,264	75,266	94,056	84,636
Dispensaries	3.4.4	188	185	186	186	178	176	285	215
Licensed Vaccinators		1,133,310	1,126,927	1,149,467	1,143,922	1,114,753	1,109,554	1,065,023	1,059,266
				•					
Total	•••	1,263,428	1,255,388	1,276,412	1,268,368	1,239,079	1,230,821	1,212,740	1,195,824

ons who were successfully vaccinated in the Province of Bihar and Orissa in each of the undermentioned official years.

ccinated.								•			
, 19	916-17		1917-18	19	18-19	193	9-20	19	20-21	19	21-22
Total number,	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated	Total number.	Number successfully viccinated	Total number.	Number successfully vaccinated.	Total Number.	Number successfully vaccipated.
10	11	12	13	14	15	16	17	18	19	20	21
3,963	3,441	6,984	6,050	6,637	5,941	7,363	6,520	1,927	1,831	891	825
38,645	37,226	37,586	- 36,107	36,573	35,?13	36,810	35,428	32,858	11,541	31, 36	30,040
80,353	73,103	82,772	77,911	59,639	56,495	69,847	66,946	80,337	77, 39	71,144	63,523
202	202	181	177	129	139	178	178	262	262	•••	•••
922,991	913,264	931,519	926,281	816,096	811,506	811,168	806,217	854,330	8:8,948	800,424	797,357
						}					
1,046,154	1,027,236	1,059,072	1,046,526	919,084	900,294	925,366	915,289	969,723	960,521	903,595	896,745

STATEMENT No. V .-- Showing particulars of vaccination

						רַ.	Total numb	er inspected-	-			Perc	centage of
• \		Total numbe	er of per-	By Assi	stant Dite o: Civil S	ctor of Public Surgeons.	e Health	By Nativ	ve Superint Inspecting	endents or o	ther	By Assistan	ot Director Civil
District,				Assistant of Public		Civil Surg	geons.	Distri Inspect		Sub-Insp	ectors.	Assistant of Publi	Director c Hearth.
		Primary.	Re-yaccination.	Primary.	Rc-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary,	Re-vaccination.	Primary.	Re-vaccination.
Ţ		2	3	4	5.	6	7	8	9	10	11	12	13
Patna Gaya Shahabad Saran Champaran Muzaffarpur Darbhanga Monghyr Bhagalpur		63,873 42,178 69,080 37,881 35,919 82,365 88,639 54,206 60,512	722 1,640 545 320 2,301 364 116 1 2,977	6,904 3,483 4,012 9,070 10,259 6,723 998 1,485		315 1,000 404 2,025 2,089 3,021 1,738 616	1,528 164 1,522 122 102 36 2,143	13,019 8,907 6,609 2,152 41,733 14,902 20,040 6,936 11,894	24	15,496 14,345 13,365 9,896 20,648 27,832 24,187 11,145 27,852	10 7 41	10°80 8°25 5°80 25°25 12°45 7 59 1°84 2°45	
Parnea Santal Parganas Cuttack Balasore Angul Puri Sambalpur Hazaribagh Ranchi	•••	34,834 49,024 60,882 25,619 5,203 35,442 20,344 28,012 35,325	3,730 2,561 1,863 1,774 36 695 859 2,199 5,651	744 2,086 1,736 4,384 2,188 1,131 		2,062 2,141 274 452 1,408 113 2,056 2,253 1,560	143 601 405 230 536 61	5,892 6,047 4,081 5,921 2,039 7,953 4,571 3,753 10,637	254 82 64 203 22 53 83 699	9,288 18,363 7,779 8,753 4,017 15,320 7,762 9,907 17,998 5,690	148 144 13 157 23 179 89	2·13 3·42 6·27 84·25 6·17 5·55 1·37	*** *** *** *** *** *** *** ***
Falamau Mandirum Singhbhum Total		14,746 43,467 16,044	4,120 2,515 1,041 36,256	2,422 1,816 1,474 61,401	•••	1,020 3,'09 2,051 31,207	662 346	4,373 3,684 4,441	64 251 1,072	18,690 7,490 295,772	2,023	5·75 9·18	

14

verified by Inspecting Officers during the year 1921-22.

nspectio	n to total nu	ımber vace	inated.			P	ercentage (of cases foar	ıd successf	ul to total	number it	aspected.			
of Public Surgeons	Health or	By Na	tive Superin Iuspectin	ntendents ong Officers.	or other	By Assis	tant Director Civil	etor of Pub: Surgeons.	ic Health	By Nativ	ve Superin	tendents Officers.	or other		ul cases
Civil s	Surgeons.	Dist Inspe	erict	Sub-Ins	spectors.	Assistant : Public	Director of Health.	f Civil St	irgeons.	Dist Inspe	riet etors.	Sub-In	spectors.		
Primary.	Re-vaccination.	Primary.	Re-vaccination,	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-raccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-raccination,
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
775 1°45 1°06 7°28 2°53 4°42 3°20 1°02 5°91	66·14 30·96 87·93 18·27 71·98	20·38 21·11 9·56 5·77 41·01 18·09 22 60 12·88 19·51 16·91	 1.04 40.10 6.80	24·26 34·01 19·35 26·12 57·46 33·29 27·28 20·56 46·02 23·66	 20·81 	73·31 98·73 64·00 97·30 96·05 90·58 95·19 90·79		94.60 97.70 99.25 99.73 100.00 99.63 99.48 100.	 44.76 23.78 48.81 50.83 62.74 11.11 62.76 	93.48 99.07 97.95 98.19 99.84 98.77 99.37 99.84 98.08	 33°33 41°29 	95·86 99·21 96·89 98·94 99·82 98·80 99·87 59·66 67·61 99·27	 90.00 57.14 24.39 	98.64 99.44 90.34 99.12 99.67 99.43 99.70 99.93 99.83 99.27	94°21 46°95 70°45 36°53 48°89 54°58 55°17 22°33 57°23 48°47
4·37 ·45 1·76 27:06 ·31 10·10 8·04 4·41 6·91 9·83	32·25 22·83 / 33·09 61·69 2·77 	12·33 6·70 23·11 39·18 22·45 22·48 13·39 30·11 29·65 11·60 27·69	3 22 3·43 16·08 61·11 11·40 3·50 12·36 2·28 3·59 24·11	37·36 12·77 34·17 77·20 43·25 28·15 35·30 50·95 38·58 43·01 46·69	5·C0 ·60 12·44 63·88 38·49 4·04 3·37 32·96 23·43	76·22 72·69 73·17 99·17 84·52 81·74 87·65 87·50 81·75		99·30 99·63 98·23 97·20 97·34 95·67 99·73 99·87 98·03 99·33 98·73	57·43 70·21 90·61 99·56 59·81 100° 76·13 52·31	99·55 99·28 98·54 95·53 99·25 93·82 97·76 97·34 89·84 99·34	58·53 18·75 63·05 54·54 47·17 81·33 68·69 37·23 81·37 82·47	99·30 99·47 £8 73 93·52 99·11 96·18 98·64 96·44 87·34 95·30 98·83	\$1.25 69.23 63.05 47.82 46.86 83.83 56.83 63.93 72.4	99.68 99.71 94.79 97.40 99.81 99.97 98.42 90.55 99.66	61.99 69.07 100. 53.95 60.88 99.39 65.07 57.83 55.19
3.48	24.21	18.22	5*55	32.73	5.22	87:73	***	99.03	59.20	98.35	68.76	98:01	63.07	99.14	56 8

STATEMENT No. FI.--Showing side by side the ratios, per 1,000 of population, of Deaths from

			19	12-13	. 19	114	19	14-15	191	5-16				
Distr	iet.		Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccina- tions.				
. 1			2	. 3.	4	5	6	7	8	9				
Patna	.	•••	.07	48,768	.17	48,480	· 4 8	57,665	.71	68,438				
Gaya	•••	• • •	•008	66,935	.03	67,817	.10	65,855	.68	75,641				
Shahabad	1,	• • •	.006	47,086	.09	53,812	·32	62,079	.45	65,016				
Saran	•••	• • •	.006	85,339	:06	81,699	.06	-80,729	:15	79,608				
Champaran	•••	•••	.07	55,486	.03	63,100	.10	64,146	.14	68,255				
Muzaffarpur	٠	•••	.04	101,405	.01	103,052	.09	105,292	.24	104,624				
Darbhanga		•••	·oi	93,546	:08	93,735	.24	97,760	•41	95,237				
Monghyr	•••	***	•08	84,475	· 4 8	89,024	.46	89,749	•42	. 87,999				
Bhagalpur		•••	•41	77,274	·31	75,244	.35	75,831	•38	74,532				
Purnea	•••	•••	.14	56,916	:22	60,587	.30	58,496	.38	51,206				
Santal Parganas	***	•••	•19	60,236	•27	64,815	.18	53,182	·37	57,558				
Cuttack	•••	•••	.01	137,175	.01	134,227	.06	113,297	•69	89,925				
Balasore	•		600	68,271	.11	69,059	.90	53,281	.90	38,609				
Angul	• • • •		•••	5,908		7,945	•••	7,680	•01	9,686				
Puri		•••	.02	55,642	07	47,269	'02	33,820	.30	37,595				
Sambalpur	•••	•••	.04	25,955	'05	25,063	.03	27,561	.75	22,606				
Hazaribagh			.02	46,150	.02	51,777	.03	48,299	•49	46,709				
Ranchi			.004	51,096	.`.01	49,989	.03	50,958	•12	52,111				
Palamau		-		23,683	.07	21,459	'10	28,327	.17	31,808				
Manbhum		•••	.005	61,191	•02	61,316	.43	73,369	:63	54,056				
Singhbhum	•••	•••	•05	20,254	03	23,496	•45	25,909	•28	19,526				
1	l'otal	•••	.06	1,270,859	•11	1,292,965	.22	1,273,285	.42	1,230,745				

17

mall-pox and the number of successful vaccinations during the ten years ending 1921-22.

1						•							
1		1916-17	19	17-18	1:	918-19		19	19-20	1	920-21	1	921-22
	Ratio of deaths from small-pox.	Number of successful vaccina- tions.	Ratio of deaths from small-pox.	Number of successful vaccina- tions.	Ratio of deaths from small-pox.	Number of successful vaccina-		Ratio of deaths from small-pex.	Number of successful vaccina-	Ratio of deaths from small-pox.	Number of successful vaccina-	Ratio of deaths from small-pox.	Number of successful vaccina-
	10	,11	12	13	14	15		16	17	18	19	20	21
	·28	.67,870	·15	68,529 62,246	·13	68,535 56,114		·85 ·62	68,573	2·79 ·77	71,340 60,938	·46	63,297 42,710
	.26	51,17 6	·10	51,858	.02	41,625		.24	4?,394	•55	62,418	•22	69,010
1	·27	74,895	·1 6	77,721	.07	66 ,4 43		.10	66,882	•39	86,000	13	37,665
The state of	-07	49,091	•11	51,755	·14	50,191	ı	·13	53,458	•29	56,914	.08	36,927
-	•20	88,702	.09	85,898	.02	86,664		· 1 0 ,	87,182	13	89,230	•04	82,124
717	.28	96,020	.07	93,206	∙08	86,555		·10	88,770	.17	93,463	.03	88,504
	-17	67,229	•10	68,361	•05	56,576		•24	59,814	•28	55,104	•14	54,215
	:22	66,899	22	68,166	•09	59,034		.23	€6,741	· 2 2	58,176	·13	62,115
de.	.33	53, 018	•64	49,480	•52	54,209		•96	50,349	•98	51,980	•29	36,428
	· 4 3	46,826	•14	56,728	.06	46,659		;30	44,691	•37	45,864	.05	50,187
	·46	73,415	·81	62,177	•89	51,815		.91	55,0 08	•30	60,775	•04	61,424
	.24	22,178	.03	25,800	•09	20,942		*86	22,139	•54	27,597	.09	23,380
	•15	9,226	.01	6,956	•06	6,751		1.11	5,739	•••	4,0€0	•••	4,968
	.52	29,228	·26	34,639	.75	33,543		3.12	32,940	.77	41,225	•08	34,897
	1.09	19,938	•24	23,345	•07	15,361		· 6 8	13,835	•27	18,523	.03	20,829
	19	42,148	•07	39,731	.07	35,632		•24	35,026	13	29,123	.02	29,524
	05	46,667	:03	47,094	*04	31,870		.90	40,559	1:38	38,450	•21	38,997
,	∴15 k ∴23	25,542	106	26,893	.06	20,472		1.26	21,226	1.76	19,346	•56	16,898
	.12	49,379	:02	52,289	*05	37,807		1.01	57,908	.11	43,192	.02	43,484
3	12	17,429	.09	17,872	·10	15,542		1.21	19,595	•52	18,023	•32	16,605
	:28	1,053,015	•19	1,070,784	17	942,370		·53	989,278	•56	1,013,696	·14	917,188

18 STATEMENT No. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1921-22.

	* * • • • (1 .	Canal .	La la E				
District.	Towns.	Number of birth's dur- ing the year ending 31st March 1922.	Number of deaths amongst infants under one year during the year ending 31st March 1922.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1922.	Date of extension of Vacci- nation Act to town.			
1.	2	3.	4	5	6			
	Patna	.3,483	615	1,858	1st October 1884.			
	Bihar	678	91	519	Ist April 1887.			
Patna }	Dinapur	758	152	581	28th January 1891.			
,	Barh	319	. 61	142	1st April 1887.			
t)	Khagole	263	45	26	12th July 1910.			
			1* }	1				
·	Total	5,501	: 64	3,126	e.			
	Gaya	1,582	682	820	1st January 1883.			
Gaya	Tikari	187	31	46	3rd January 1891.			
l l	Daudnagar	257	59	170	Ditto:			
•				7.000				
	Total	2,(26	772	1,036				
6	Arrah	1,230	. 281	897	20th July 1885.			
).):	Buxar	314	61	299	1st April 1887.			
	Dumraon	429	112	249	Ditto.			
Shahabad $\{$	Jagadispur	248	43	222	20th December 1890:			
	Sassaram	71.8	154	512	lst April 1887.			
	Bhabhua	187	45	135	T):440			
	Total	3,126	- 696	2,314				
•	Total of Patna Division.	10,653	2,432	6,476				
	Chapra	1,300	245	617	1st April 1887.			
Saran	Revelganj	311	66	191	12th December 1890.			
	Siwan	312	49	253	1st April 1887.			
				i	*			
	Total	1,923	360	1,061				
	Motihari	417	6.4	273	lst April 1887.			
Champaran }	Bettiah	810	166	381	Ditto.			
	Total	1,227	230	654				

STATEMENT No. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1921-22—contd.

District.	Towns.		Number of births dur- ing the year ending 31st March 1922.	amongst infants under one year during the year ending 31st		Number of successful vaccinations amongst infants under one year during the year ending 31st March 1922.	Date of extension of Vacci- nation Act to town.
ı	2		3	1	4	5	6.
	Muzaffarpur	•••	1,196	9	222	824	1st January 1886.
	Sitamarhi	• • •	425		61	214	1st April 1887.
Muzaffarpur ,	Hajipur	•••	678		. 192	165	1st May 1890.
	Lalganj	•••	2932		. 61	252	1st April 1887.
	Total	•••	2,592		536	1,525	
	Darbhanga		2,088	7	312	401	24th May 1884.
70 11	Roserha	•••	343	-	65	84	3rd January 1891.
Darbhanga	Samastipur	•••	230		_ 14 ,	28	25th July 1910.
	Madhubani	•••	528		84	81	1st April 1887.
les-coding a	Total	***	3,189	1	475	594	
	Total of Tirhi Division.	ıt	8,931	1	1,601	3,834	
	Monghyr	•••	1,564		213	148	15th November 1882.
Monghyr	Jamalpur	•••	964		122	497	Ditro.
t.	Total		2,528		355	645	,
	Bhagalpur	•••	1,908	,	305	632	15th February 1884, withdrawn on 16th
Bhagalpur	,		1		2 \$		October 1895; re- extended on 18th August 1898.
	Colgong	•••	,131		28	51	Ditto, re-extended on 19th December 1901.
e de la companya de l	Total	a· • ·	2,039	-	333	683	
	Purnea	• /•·	356		41	. 187	1st July 1887.
	Kishanganj	0.0.	- 126		10		
Parnez	Katihar	••	. 253	A.	20	5. 52	8th August 1910.
	Forbesganj	•••	. 107		7	7 91	9th August 1912.
	Total	• •	842	-	84	42:	

STATEMENT No. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1921-22—contd.

District.	Towns.	Number of births during the year ending 31st March 1922.	Number of deaths amongst infants under one year during the year ending 31st March 1922,	Number of snccessful vaccinations amongst infants under one year during the year ending 31st March 11922.	Date of extension of Vaccination Act to town.
1	3	3	4	.5	. 6
	Sahibganj	487	58	230	1st May 1884,
	Deoghar	283	38	51	Ditto.
Santal Parganas	Madhupur	254	36	70	22nd August 1910,
,	Dumka	218	26	93	Notifications, dated the 9th April 1884, and 23rd August 1910.
	Total	1,242	158	414	
	Total of Bhagal- pur Division.	6,651	930	2,197	
(Cuttack	826	159	410	1st September 1884.
Cuttack	Kendrapara	391	72	41	7th February 1888,
	Jajpur	253	81	18	Ditto.
	Total	1,470	312	469	
Balasore	Balasore	232	86	103	7th February 1883.
Puri	Puri	696	238	223	Ditto.
Sambalpur	Sambalpur	300	69	161	7th March 1895.
, , , , , , , , , , , , , , , , , , ,	Total of Orissa Division.	2,698	705	956	
	Hazaribagh	298	16	206	1st January 1885.
Hazaribagh	Chatra	211	16	90	1st August 1885.
	Giridih	278	63	89	8th September 1910.
	Total	787	95	385	
	Ranchi	1,048	74	978	1st April 1887.
Ranchi <	Lohardaga	151	26	67	25th June 1892.
The Party	Total	1,199	100	1,045	

STATEMENT No. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1921-22—concld.

District.		Towns.		Number of births during the year ending 31st March 1922,	Number of deaths amongst infants under one year during the year ending 31st March 1:22.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1922.	Date of extension of Vaccination Act to town.
		2	3	4	5	б	
Palamau	•••	Daltonganj	•••	269	38	80	9th October 1890.
		Purulia	•••	432	40	284	1st January 1887.
		Raghunathpur	•••	133	9	70	9th February 1894.
Manbhum		Jhalda		129	13	47	9th July 1892.
		Dhanbad	•••	159	. 6	29	5th December 1918.
	-	Total		853	68	430	
<u> </u>	<u> </u>	Chaibassa	•••	210	46	187	20th June 1892.
Singhbhum	{	Chakradharpur	•••	125	. 14	55	13th January 1919.
	; ;	Total	•••	335	60	242	
			ion.	3,284	' 3 5 5	2,153	
		Total for the Province		32,376	6,029	15,645	

ANNEXURE

Provincial Statement showing the different kinds of lymph

							Primary vaccination.									
				Direct fro	m the c	alf.		V	Arm-to-arm							
District.			Tota!,	Total, Successful. Unsuccessful. Unknown.		Percentage of successful cases.	Total,	Total, Sucoessful,		Unsuccessful. Unknown.		Total.	Successful.			
	1		2	3	4	5	6	7	8	9	10	11	12	13		
Patna Gaya Shahabad	***	•••			•••		•••	63,873 42,178 69,080	62,931 41,940 8,626	599 150 381	293 88 /	98·60 99·44 99·34	•••	•••		
Saran Champaran	0 0-0 0 3-1	***					***	3 7,831 35,919	37,548 35,804	69	156 46	99 12 99 67	•••	•••		
Muzaffarpur Darbhanga Monghyr		•••	•••				•••	8°,^65 88,639 54,236	81,909 88.420 54,171	436 202 29	20 17 6	99.43	• • •	•••		
Bhagalpur Purnea	•••	•••		•••	•••		4.4.4	60,512 34,834	60,411 34,620	-63 176	38	99·83 99·38	0.010	•••		
Santal Pargan Cuttack Balasore	•••	***					•••	49,024	48,812 60,3 93 25,471	98 193 74	11 <i>i</i> 296	99·56 99·19 99·71		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Angul I uii	•••	•••				•••	0.00	5,203 35,4.2	4,932 34,522	191	80 651	94·79 97·40	•••	***		
Fambalpur Hazaribagh	***			-1,	•••	•••		20,344 28,012	20,306	30	35	99.89	0.0-0 di 3 0.0-0	***		
Ranchi Palamau Manbhum	•••						***	35,325 14 746 43,467	35,317 14,514 42,075	58 865	8 174 527	99·97 98·42 93·79	000 000 Eas	***		
Si. glibhum	•••	***					***	16.044	15,991	28	25	99.66	• • •	•••		
T	OTAL	•••						903,595	896,745	4,001	2,759	99 24	•••	•••		

11.
used and their rates of success during the year 1921-22.

). ;	0					V								
vacciu	ation.		1	Direct f	from th	ne calf.		v	Vith lanoli	ne or glycer	1	Arm-to	o-arm	vaccination	1.		
Unsuccessful.	Unknown.	Percentage of successful cases.1	Total.	Successful.	Unsucoessful,	Unknown,	Percentage of successful cases.	Total, Successful		Unsuoceasful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccess ul.	Unknown.	Percentage of successful cases.
14	15	16	17	18	19,	20	21	22	23	21	25,	26	27	28	29	30	31
								722 1,640 545 329 2,301 394 116 197 2,977 3,730 2,561 1,863 1.774	316 770 384 117 1;123 213 64 44 1;704 1,808 1,375 1,031 9)9	346 866 135- 195 699 154 38 150 ³ 1,017 1,564 851 632 407	60 4 23 8 479 27 14 3 256 358 332 200 458	43.76 46.93 70.45 36.56 48.80 54.58 55.17 22.33 57.24 42.76 53.68 55.30 69.07					
								36 695 859 2,199 5,651 4,1°0/ 2,515 1;041	36 375; 523 1,564 3,680 2,384 1,409 614	 164 249 386 1,449 ³ 265 740 356	 156 87 249 522 1(471) 366 71	100° 53°95 60°88° 79*07 65°13° 57°86 56°02° 58°98					•••
					***		•••	36,256	20,443	10,666	5,147	56.38		1		•••	

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